UNITED STATES PATENT OFFICE.

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BARREL-MAKING MACHINE.

SPECIFICATION forming part of Letters Patent No. 300,193, dated June 10, 1884.

Application filed May 7, 1883. (No model.)

To all whom it may concern:

Be it known that we, MARIA E. BEASLEY, a citizen of the United States, residing in Philadelphia, Pennsylvania, and EMIL M. HUGENTOBLER, also a citizen of the United States, residing in New York city, New York, have invented an Improved Barrel-Making Machine, of which the following is a specification.

This invention relates to a machine for the manufacture or building up of barrels, the staves and heads having been first formed and cut to the required size by separate machinery. The barrel is formed by placing the heads in the machine and fitting the staves around the periphery of the heads, and the barrel is then released and is ready to be operated on by a hooping-machine; or the hoops may be forced down in place by the usual method.

The construction and operation of the machine will be fully described hereinafter, reference being had to the accompanying drawings, in which—

Figure 1, Sheet 1, is a front elevation of our improved barrel-building machine; Fig. 2, a section of the driving-gear; Fig. 3, Sheet 2, a plan view; Fig. 4, a sectional plan on line 1 2, Fig. 1; Fig. 5, Sheet 3, an end view of the machine; Fig. 6, a transverse section on line 3 4, Fig. 1; Fig. 7, a transverse section on line 5 6, Fig. 1; Fig. 8, a transverse section on line 7 8, Fig. 1; Fig. 9, Sheet 4, a transverse section drawn to an enlarged scale on line 9 10, Fig. 1; Fig. 10, Sheet 5, a longitudinal section of part of the machine drawn to an enlarged scale; Fig. 11, a detached section of the head-centering mechanism; Figs. 12, 13, and 14, detached views of parts of the machine; Figs. 15 and 16, Sheet 1, diagrams illustrating the fitting of the staves around the heads of the barrel; Figs. 17 and 18, Sheet 2, and Figs. 19, 20, and 21, Sheet 3, detached views of parts of the discharging mechanism.

The frame of the machine consists of four heads, A A A′ A′, through which pass three tie-bolts, B B B, the two end heads, A A, having suitable legs to support the structure.

Resting on the top and bolted to the two heads A′ A′ is a frame, D, on which slides the hopper E.

F is the main driving-shaft running the length of the machine and carrying at one end a driving-pulley, *a*.

There are five separate and distinct movements in this machine, and, in order to simplify the description, we will describe them separately in the following order: First, the swinging frame for placing the heads centrally in the machine; second, the fitting of the staves around the heads; third, forcing the hoops over the barrel; fourth, the releasing of the barrel; and, fifth, the raising and lowering of the hopper containing the staves.

The mechanism for placing the heads centrally in the machine is shown in Figs. 1, 3, 8, and 11, and is as follows:

G is a swinging frame pivoted to the shaft H, which is attached to the two heads A′ A′, and the extent of movement of this frame on its pivot inward is limited by a stop, *b*, striking against part of the permanent frame.

The detailed construction of the upper part of the frame will be best observed by reference to Fig. 11, Sheet 5, which is a sectional plan of that part of the frame. Two disks, *c c*, flanged to receive and hold the heads of the barrel, are attached to two sleeves, *d d*, which have their bearings in the upper part of the frame G. The disks are partially cut away to allow of the easy introduction and adjustment of the barrel-heads. A handled collar, *f*, let into a slot in the frame G, carries right and left handed screw-bolts *e*, adapted to the internally-threaded sleeves *d d*. These sleeves have longitudinal slots *d′*, to allow bolts *d²* to pass through the frame and sleeves to prevent the disks *c c* from turning when the screw-bolt *e* is turned. Thus by turning the collar *f* and its screw-bolt in one direction the disks *c c* are forced out, and by turning them in the opposite direction the disks are caused to approach each other.

The fitting of the staves around the head is effected by mechanism shown in Figs. 1, 3, 8, 9, 10, 15, and 16.

J J′ are two disks, which are attached to the shafts I I, and on the periphery of these disks